

A
PERFECT
PLATFORM
OF A HOP-
GARDEN.

And necessary Instructions for the
making and maintenance thereof, with
Notes and Rules for reformation of
all abuses commonly practised
therein, very necessary and
expedient for all men
which in any wise
have to do with
Hops.

PROVERBS. II.

Who so laboureth after goodnesse, findeth his desire.



LONDON,
Printed by T. Mabb, for William Shears, and are to be sold at
the Signe of the Bible in St. Pauls Church-Yard,
near the little North door 1653.

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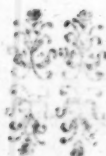
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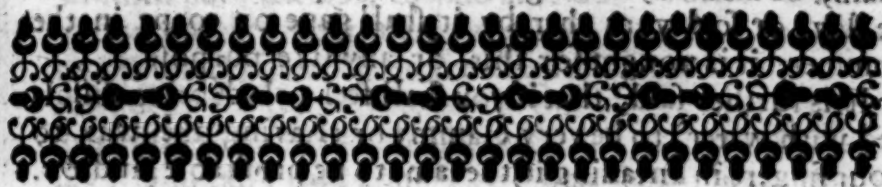
Hops.

PROVERBS. II.

Wherefore he that desireth knowledge, let him apply himself to it.



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A

PERFECT PLAT- FORM OF A HOP Garden.



T what time necessity, or any other good consideration shall move you to devise for a Hop Garden, you are to consider of these three things.

First whether you have or can procure unto your self any Ground good for that purpose.

Secondly, of the convenient standing thereof.

Thirdly of the quantity.

And this I say by the way, if the ground that you deal withall be not your own inheritance, procure unto your self some certain terme therein, lest another man reap the fruit of your travell and charge.

Of apt and unapt Ground for Hops.

Some hold at this day (and ancient Writers witnesse the *Vulg.* same) that earth being salt and bitter of taste, is neither good, nor apt to be made good.

It is also often written, and generally received, that such earth as you shall see white and bare, (that is to say) wholly

Didymus,
Plinius.

chalk, or all sand, lacking a mixture of perfect earth, or if it be clay, or soddy, or thereby it shall gape or coane in the Summer, it is sought for this, or any like purpose.

It is further said, that if you shall feel a clod (being dissolved with water) to be very clammy or claving like wax to your fingers in kneading it, the same to be profitable land.

I for my part rely not upon other mens opinions, neither mean to dispute with any man herein, I like not to make my mouth an arbitrator in this matter, mine ey may be deceived, and my feeling may erre in the precise distinction of good or bad land, but mine experience hath never failed in this thing (that is to say) that a barren, a moory or wet soil, (though it perhaps do content a wild Hop) shall never please nor maintain a good Hop.

I will not say with Varro, that a good ground yieldeth Walwoorts, nor with Columella, that where Crabs or slugs grow, there the ground is rich. I can say nothing of Florentine experience in digging a hole, and filling it up again, and by the swelling to judge the strength, or by the gaping to define the weaknesse thereof; but I can say again by sure experience, that a dry ground, if it be rich, mellow, and gentle, is the soil that serveth best for this purpose, and such a mould must either be sought out, or else by cost and labour be provoked.

If it be a very shallow rock (except you raise it with greet or good earth) you shall not set your Poles deep, stiddy, and fast enough to withstand the force of the wind.

But to redresse the inconvenience hereof, you shall be taught in the Title of Poles.

A light mould (though it be very rich) is not very apt for this purpose, for it is a received and an approved rule, that the heaviest ground will bear the most weight of Hops, I say, so as it be a ground apt for this purpose.

Of the situation.

IT were good to place your Garden, so as the Sun may have free recourse into it, either the whole day, or the greatest &

warmest

warmest part thereof, so also as it may be armed against the violence and contagion of the wind; but this I could wish to be considered rather in the situation of the place, naturally defended with hills, then artificially to be set and guarded with Trees. Howbeit if you be driven hertunto, provide so (if you can) that your Trees may stand aloof, even that the shadow of them, reach not into your Garden, but in any wise that they drop not upon the hills.

There be many which (to purchase the favour and benefit of the Sun) lay their Gardens very open and bleak to the South, the which I would not wish to be done, for as the forepart of the year admitteth into your Garden the cold Easterly winds, whereby insues Frosts, the which ingenders Blasts, &c. So the latter part of the year maketh it subject to Southerly stormes, which do much annoy an Hop-Garden when the Poles are loaden with Hops, and then commonly no other wind hurteth.

It should also be placed near to your house, except you be able to warrante the fruit thereof from such fingers, as put no difference between their own, and other mens goods.

Also your Garden being thus placed, there may be made thertunto the more speedy and continuall recourse, besides that the Masters eye doth many times withstand and prevent the Servants negligence.

By this means it may be with most ease and least charge holpen with Dung.

Finally (if it may be) let it not stand bleak to the East, West, North, or specially to the South.

Of the quantity.

THe quantity of your Garden, must either be measured by the proportion of your yearly expences of Hops in your house, or by the cost you mean to bestow in the preparation and keeping thereof, or by the pains and businesse, that you are disposed, or able to employ upon it, or else according to the profit and gains, that you mean to levie

and win by it, which later consideration pleaseth and flattereth much a covetous mans conceit, whose vain or humour, (or rather vain humour) is so refuted in the Rules appertaining hereunto, as many times the greedinesse of his desire is the overthrow of his purpose, as shall hereafter appear.

A proportion of the charge and benefit of a Hop-garden.

BUT to be resolved in all these points that concern the quantity of your Garden, you must make your account in this wise. One man may well keep two thousand hills, and yet reserve his Winters labour for any other purpose.

Upon every Acre you may erect seven, eight, or nine hundred hills, as hereafter shall be declared.

Upon every hill well ordered, you shall have three pounds of Hops at the least.

Two pounds and a half of these Hops will largely serve for the brewing of one quarter of Mault.

One hundred pounds of these Hops are commonly worth xxvi. Shillings viii. pence. So as one Acre of ground, and the third part of one mans labour, with small cost besides, will yield unto him that ordereth the same well, forty Marks yearly, and that for ever.

And here is to be noted, that ground orderly used doth not onely yield the more, greater, harder and weightier Hops, but also they go further, they will endure longer, be wholesomer for the body, and pleasanter of verdure or taste, than such as be disorderly handled. And in the favour of the Hop thus much more I say, that whereas you cannot make above eight or nine gallons of indifferent Ale out of one Bushell of Mault, you may draw xviii. or xx. Gallons of very good Beere, neither is the Hop more profitable to enlarge the quantity of your drink, then necessary to prolong the continuance thereof: For if your Ale may endure a fortnight, your Beere through the benefit of the Hop shall continue a moneth, and what grace it yieldeth to the taste, all men may

may judge that have sense in them, and if the controversie be betwixt Beer and Ale, which of them two shall have the place of preheminnence, it sufficeth for the glory and commendation of the Beere, that here in our own Countrey Ale giveth place unto it, and that most part of our Countreymen do abhor and abandon Ale, as a loathsome drink, whereas in other Nations Beere is of great estimation, and of strangers entertained as their most choice and delicate drink. Finally, that Ale which is most delicate and of best account, borroweth the Hop, as without the which it wanteth his chief grace, and best verdure.

These things considered ye may proceed to the making of your Garden, wherein you are yet to have counsell, for the laying out thereof, for the due season and the right trade to cut and set Hop-roots, what choice ye shall make of them, what charge yeshall be at for them, you are yet also to learn the time when, and the way how to prepare your ground, and to make it able to entertain and nourish them, to frame your Hills, to maintain them, pull them down, to cut, to fashion, to erect, to pull up, to preserve your Poles, to gather, to dry, and to pack your Hops, with many other circumstances necessarily appertaining hereunto. Finally ye must be taught the reformation of many enormities and abuses which are received in most places for good rules, the (which God willing) I will set forth truly according to the notes of experience although not learnedly after the rules of Rhetorick.

Of the Preparation of a Hop-Garden.

YOU must lay forth the Ground which you determine to employ in this way, in as leuell, square, and uniform wile as you may.

If your Ground be grassie, rough or stiff, it should be first sown with Hemp or Beans, which naturally maketh the ground mellow, destroyeth weeds, and nevertheless leaveth the same in good season for this purpose.

But in what plight, or state soever your ground be, till it
in

in the beginning of Winter with the Plough, if it be great, or with the Spade if it be small, and this do not onely the year before you Plant it, but every year after, even so long as you mean to receive the uttermost commodity of your Garden, assuring your self, that the more pains you take, and the more cost you bestow hereupon, the more you do double your profit, and the nearer you resemble the Trade of the Flemming.

Howbeit in some Cases these pains may be spared (that is to say) where the mould is not deep, and the hill made both good and great, in this case (I say) the hills being pulled down, the earth contained in them, will cover the whole Garden, and all weeds growing therein, and the same will with help of dung maintain your hill for ever.

The time to cut, and set Hop-roots.

IN the end of March, or in the beginning of April, repair to some good Garden orderly kept, as wherein the Hops be all of a good kind, yearly cut and wherein all the hills are raised very high, for there the roots will be greatest) then compound with the owner or keeper thereof for choice roots, which in some places will cost six pence an hundred, but commonly they will be given unto you, so as you cut them your self, and leave every hill orderly and fully dressed, but what order you shall use herein, I will hereafter shew.

Rules for the choice and preparation of roots.

AND now you must choose the biggest roots you can find (that is to say) such as are in bignesse three or four inches about:

And let every root which you shall provide to be set be nine or ten inches long.

Let there be contained in every such root three joynts.

Let

Let all your roots be but the Springs of the yeare last past, You must have great regard that you cumber not your Garden with wild Hops, which are not to be discerned from the good by the roots, but either by the fruit, or by the stalk.

Of the Hoppe.

THe kindly Hop beareth a great and grene stalke, a large, hard, and a green bell, it appeareth out of the ground naked without leaves, until it be halfe a foot long.

Of unkindly Hopps.

THe Hop that liketh not his entertainment, namely his seat, his ground, his keeper, his dung, or the manner of his setting &c. cometh up small and green in stalk, thick and rough in leaves, very like unto a Nettle, which will commonly be much devoured or much bitten with a little black flie, who also will do harme unto good Hops, where the garden standeth bleak, or the Hop springeth rath, but be not discomforted herewith, for the heat of the Summer will reforme this matter, and the latter Springs will be little annoyed with this flie, who, though she leave the leafe as full of holes as a Net, yet she seldome proceedeth to the utter destruction of the Hop.

Of the wild Hop.

OF the wild Hop, the fruit is either altogether sead, or else loose and red light bells, the stalk is red, howbeit, herein the difference between the good and the bad Hop is not to be discerned, until the stalk be two or three yarde high, for at their first coming up, the one aswell as the other appeareth red, and the best Hop is alwaies the most red.

Provide your roots therefore where you are assured of of their goodnesse beforehand.

Of setting of Hop-roots.

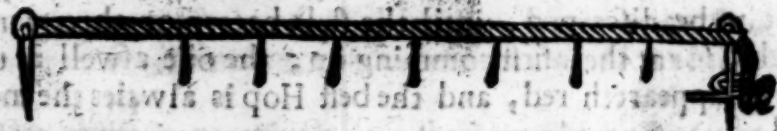
HAVING made your provision of roots in this wise, return therewith to your Garden speedily, and either set them immediately, or lay them in some Puddle near thereunto, or bury them in the ground untill conveniency or winde, weather, and leisure (the want whereof may sometimes prevent good expedition) shall serve. Provided alwaies that you leave them not in water puddle above xxiv. hours, but in the earth you may leave them as long as the time of setting endureth, that is to say, till the middest of *Aprill*.

Your Garden being dressed, as before I advised you, it shall be easie for you to direct your hills aright, and that in equall distance with a Pole, or rather with a line (that will not stretch) tying thereupon short threds, or placing in it pins, according to the proportion of space which you mean to leave between your hills, whereof if one be placed out of order, it shall blemish and hurt a great part of your Garden.

The distance of the Hills.

IF your Garden be one Acre in bignesse, and lye square, leave between every hole three yards, or eight foot at the least in space, as well that the hills may be made the greater, and that the Hops of one pole reach not to another, as also that the Sun may the more freely, and universally passe thorough your Garden, which by this means may yearly be ploughed betwixt the Hills, whereas otherwise it must be digged, which is a more tedious and costly businesse.

If your Garden be very little, you may set the hills somewhat nearer together, namely, seven foot asunder.

A description of the Line.

YOUR line being laid levell, you must digg, underneath every thred or pin placed upon the same, a hole like a Pitfall,

fall, one foot square, and one foot deep.

When you have made twenty or thirty holes, take up so many roots; from where you bestowed them, as ought to be therein, and go to work on this wise, alwaies watching a time (if you may) that the winde be in some part of the *South* or *West*, but be not so scrupulous herein, that you overslip the moneth of *April*, least *Salomons* saying, be spoken of you. He that regardeth the *Wind* shall not sow, and he that bath respect to the *Clouds* shall not reap. For he that neglecteth the Moneth of *April*, shall have a bad season to cut or plant Hops.



Take two or three of your roots (which by this time will yeeld forth green Cions or white buds, and will also have small roots or beards growing out of them, the which must be, all (aving the smaller sort of white buds, pared away by the old root) joyn them close together, so as (in any wise) they may be even in the tops: set them also together bolt upright, directly under the foresaid thred or pin, holding them hard together with one hand, while you fill the hole with the other with fine mould prepared and made ready before hand, regarding that the tops of the roots be levell with the face or uppermost part of the ground.

Take good heed also that you set not that end downward, that grew before upward, which you shall know by the buds that appear in the knots of each root, and let no part of the dead remain upon the uppermost part of the joynt thereof.

And when you have thus done, presse down the earth with your foot hard to the roots, not treading upon them, but

driving the loose earth close to the corner where the roots are set.

And here is to be noted, that the readiest and evenest way is alwayes to set your roots at one certain corner of the hole, which corner should alwaies be right underneath the said pinne or thred, as is aforeshewed.

At this time you must make no hill at all, but onely cover the tops of your roots about two inches thick, with the finest mould you can get.

When you are driven to set your roots late, if there be any green springs upon them, you may take the advantage thereof, leaving the same spring uncovered, otherwise you both destroy the spring, and endanger the root.

Abuses and disorders in setting,

Some use to set at every corner of the hole one root, but this is a naughty and tedious trade, because a man shall be longer in dressing one of these, than about four other. To be short, you shall this way so cumber both your self and your Garden, that you will soon be weary with working, and your Garden as soon weary of bearing.

Some wind them and set both ends upward, and herein the cunning of the workman, and the goodness of the roots are lively expressed, for if the roots were good, they could not be so wound, or if the workman were skilful, he would not be so fond as to set them in that order.

Some use to lay them thwart or flat, but I say flatly that is a praposterous way, for they can neither prosper well (as being set contrary to their nature, and kind of growing) nor be kept as they ought to be.

Some use to make hills and set the roots therein, but the moisture in regard of the hill, cannot administer succour to them, besides other inconveniences which may follow.

Some bury the roots under a great hill made on them after the setting, this differs not much from the other, onely the hill so choaks these that they will do no good.

Finally,

Finally, there be as many evill wayes to set, as there be ignorant men to devise.

Provision against annoyance, and spoile of your Garden.

IF your Garden be small, and very nigh to your house, you may arm every hill with a few thorns to defend them from the annoyance of Poultry, which many times will scrape and bath amongst the hills, and so discover and hurt the springs, but a Goose is the most noysome vermine that can enter into this Garden, for (besides the Allegory that may be applyed in this case) a Goose will knabble upon every young science or Hop bud that appeareth out of the ground, which will never grow afterwards, and therefore as well to avoid the Goose, as other noysome cattell, let your closure be made strong, and kept tight.

Of Poles.

IT remaineth that I speak now of Poles, because Poling is the next work now to be done.

If your hills be distant three yards asunder, provide for every hill four poles, if you will make your hills nearer together, three poles shall suffice.

And note that in the first year you may occupy as many poles as in any year after, the reason whereof I will declare in the title of Hills.

Alder poles are best for this purpose, as whereunto the Hops seem most willingly and naturally to encline, because both the fashion of these poles being as a Taper, small above, and great below, and also the roughnesse of the Alder-ryne, stayeth the Hop stalk more firmly from sliding down, than either Ash or Ok, which for continuance be somewhat better, howbeit, these with the order that I shall prescribe, will endure six or seven years.

These are also best cheap, and easiest to be gotten in most places, and soonest grown ready for this purpose.

There is in the Spring of these, least danger in growing, or in being destroyed, or bitten by cattell.

Finally, by the expence of these, there ensueth the least annoyance to the Common-wealth, as well for the causes aforesaid, as also because they grow not in so great quantity, to so good timber, nor for so many purposes as either Oke or Ash.

The best time to cut your poles, is between *Alballonide* and *Christmas*, but you must pile them up immediately after they are cut, sharpened, reformed in length, and smoothed, lest they rot before you occupy them.

You may not leave any scrags upon them, the reason whereof you shall conceive in the Title of gathering Hops.

Your Poles may not be above xv. or xvi. foot long at the most, except your ground be very rich, or that you added thereunto great labour in raising up your hills, or else except your hills stand too near together: if any of these chance to be, or if all these three things meet in one Garden, the best way of reformation, is to set the fewer poles to a hill, or to let them remain the longer. Otherwise the Hops will grow from one pole to another, and so overshadow your Garden, the fault thereof being especially to be imputed to the nearness of the hills. Therefore chiefly you must measure your poles by the goodnesse of your ground.

Your Hop never stocketh kindly, untill it reach higher than the Pole, and return from it a yard or two, for whilst it tendeth climbing upward, the branches, which grow out of the principal stalk (wherein consisteth the abundance of increase) grow little or nothing.

Let the quantity of your Poles be great (that is to say) nine or ten inches about the lower end, so shall they endure the longer, and withstand wind the better.

To describe the price of poles, or what it will cost you to furnish a Garden containing an acre of ground, it were a hard matter, because the place altereth the price of Wood. But in a Wain you may carry an hundred and fifty poles, and I see small cause why a load of these should be much dearer than a load of any other Wood.

After

After the first year Poles will be nothing chargeable unto you, for you may either pick them out of your own provision of Fuell, or buy them of your Neighbours that have no occasion to apply them this way. For the yearly supply of two loads of Poles, will maintain one Acre continually.

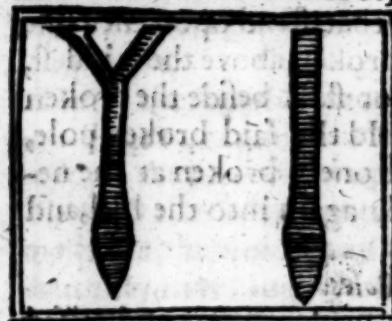
Your rotten and broken Poles will do you good service, for the kindling of your fires in the Ofte, whereupon you should dry your Hops, and they should be preserved chiefly for that purpose.

At *Poppering* (where both scarcity and experience hath taught them to make carefull provision hereof) they do commonly at the East and North-side of their Gardens, set and preserve Alders, wherewith they continually maintain them.

Before you set up your Poles, lay them all alongst your Garden between every row of hills by three or four together, I mean beside every hill so many Poles as you determine to set thereon, so shall you make the more speed in your work.

Of the erection of Poles.

When your Hops appear above the ground, so as you may discern where the principall roots stand, set up your Poles, preparing their way with a crow of Iron, or a forked wooden tool, with a point of Iron, somewhat



like unto these. For if you stay till the Hops be grown to a greater length, one inconvenience is, that either in making the holes, or in erecting the poles, or else in ramming the earth to the fastening of them, you shall hazard the bruising or breaking of your Hops: another

is, that you shall be forced to tie every stalk to the pole, whereas otherwise the most part of them will climb up of their own accord: the third is, that it will hinder the growth of the Hop, if it remain unstayd so long.

You

You must let every Pole a foot and a half deep, and within two or three inches at the most of the principall root.

If your ground be rockie and shallow, tarry the longer before you set up your Poles, so as your Hops may be grown two or three foot high, that you may adventure to make a hill or bank at every pole to stay and uphold the same, without burying any of the young Springs, which may afterward be covered with lesse danger and annoyance of the principall root.

Let the Poles of every hill lean a little outward one from another.

Of Ramming of Poles.

THEN with a piece of wood as big below as the great end of one of your poles, ramme the earth that lyeth at the outside of the Pole thereunto; but medle not within the compasse of your Poles, as they are placed, lest you spoile the Springs.

Of Reparation of Poles.

IF any of the Poles chance to break in many pieces, when the Hop is grown up, undoe and pull away the same broken pole, and tye the top of those Hops to the top of a new pole, then winding it a turn or two about according to the course of the Sun, set it in the hole, or besides the hole where the broken pole stood, but some being loth to take so much pains, turn it about the other Poles that stand upon the same hill, and so leave it. But if it be not broken above the middest, the best way is, to set a new pole or stalk beside the broken pole to the same, which may uphold the said broken pole, and preserve the Hop. If the pole be onely broken at the nether end, you may shove the said pole again into the hill, and so leave it.

Of pulling up Poles.

AND because, when the hills are made great, and raised high you can neither easily pull up any, nor possible pull up all your poles except you break them, &c. especially if the weather or ground be dry, or else the Poles old or small, I thought

thought good to shew you an Instrument wherewith you may pull them up without disease to your self, destruction to your Poles, or expence of your money, the charge being



duly foure-
teen or fif-
teen pound
of Iron,
wherewith
the Smith
shall make
you a paire
of Tongs,

(or rather you may call them) a pair of Pinners, of the fashion here set down, the which may also be made with wood, if you think good.

*The way to make the Instrument wherewith to pull
up the Hop-poles.*

They must be one yard in length, whereof six or seven inches may be allowed for the mouth or lower end of them, which serveth to clasp or catch hold on the Pole, the same nether end should be the strongest part thereof, and the mouth somewhat hollow in the middest, and there also bending downward, whereby the extreame point may rise a little upward.

Upon the upper edges of the inside thereof, the Smith should hack or raise a few small teeth, whereby your tool may take the surer hold upon the Pole.

He must also fasten upon every side of this Instrument a riding hook, the which may clasp and stay both sides together, when they have caught hold on the pole.

The manner of pulling up the Hop-poles.

You shall lay a little square block upon the top of the hill, and the better to remove the same from hill to hill, you may

may thrust therein a Pin. Upon the same block you may rest your Pinsers, when they have clasped the very lowest part of your Pole, and then holding the upper part of each side in your hands, the hook being clasped, and pulled up hard towards you, you may easily welgh up your Poles.

Of the preservation of Poles.

ANd although yeare not come to the laying up of Poles, I am bold herein, as I began too late, so to make an end too quickly, because I would touch the whole matter of Poles together, laying them by themselves, (I mean) comprehending under one Title, the businesse pertaining unto them.

For the preservation and better continuance of Poles, some make houses of purpose, and lay them up therein.

Some set them upright to a Tree, and over them make a penthouse of boughs or boords.

Some lay a great heap of Hop-stalks upon the Ground, and upon them a great heap of Poles, and upon the Poles again lay another heap of stalks, &c.

These men hereby do expresse no great experience, although by their diligence they signifie a good desire.

You shall need to do no more but thus. At the ends or sides of your Garden, take three Poles standing upon three Hills, placed directly one by another, and three like Poles upon three other hills of the next row right over against them, constrain them to meet together by two, and two in the tops, and so hold them, till one with a forked wand put three withs (lik unto three Broom bands, which may be made of the stalks of Hops) upon each couple of the said six Poles, so shall the same six Poles being so bound by two and two together, stand like the roof or rafters of an house.

To keep the Poles that shall lye nethermost from rotting by the moistnesse of the ground: within the compasse of your said six hills, underneath the Poles that you have fastened

stened together in the tops,) raise three little banks crosse or thwart from hill to hill, as though you would make your six hills to be but three.

Upon those banks lay a few Hop-stalks, and upon them your Poles, observing that one stand at one end of the room, and another at the other end, ordering the matter so, as the tops of the Poles lie not all one way, but may be equally and orderly divided: otherwise one end of the room would be full before the other, whereas now they will lye even and sharp above like an hay-stack, or the ridge of an house, and sufficiently defend themselves from the weather.

If you think that you have not Poles enough to fill the room, pull down the withs or bands lower, and your room will be lesse, and do this before you lay in your Poles.

Of tying Hops to the Poles.

WHen your Hops are grown about one or two foot high, bind up (with a Rush or Grasse) such as decline from the Poles, winding them as often ye can about the said Poles, and directing them alwayes according to the course of the Sun, but if your leisure may serve (to do at any other time of the day) do it not in the morning when the dew remaineth upon them.

If you lay soft green Rushes abroad in the dew and the Sun, within two or three dayes, they will be lithi, tough, and handsome for this purpose of tying, which may not be foreflowed, for it is most certain that the Hop, that lyeth long upon the ground before he be tyed to the Pole, prospereth nothing so well, as it which sooner attaineth thereunto.

Of Hilling and Hills.

NOW you must begin to make your hills, and for the better doing thereof, you must prepare a tool of Iron fashioned somewhat like to a Coopers Adde, but not

so much bowing, neither so narrow at the head, and therefore likest to the nether part of a shovell, the poll whereof must be made with a round hole to receive a helve, like to the helve of a mattock, and in the powl also a nail hole must be made to fasten it to the helve.

This helve should bow somewhat like to a Sithe, or to the scale of a Sithe, and it must be little more than a yard long.



The helve
should be
straight at the
upper end.

With this tool you may pare away the grasse, which groweth in the spaces betwixt the hills, and with the same also you may take your hills, and pull them down when time requireth.

Some think it impertinent and not necessary to make hills the first year, partly because their distrust of this years profit qualifieth their diligence in this behalf, and partly for that they think, that the principall root prospereth best, when there be no new roots of them forced and maintained. But experience confuteth both these conjectures, for by industry, the first years profit will be great, and thereby also the principall sets much amended, as their prosperity in the second year will plainly declare.

But in this work, you must be both painfull and curious, as wherein consisteth the hope of your gains, and the successe of your work. For the greater in quantity you make your hills, the more in number you shall have of your Hops, and the fewer weeds on your ground, the more Hops upon your poles.

In consideration whereof I say, your labour must be continuall from this time almost till the time of gathering, in raising your hills, and clearing ground from weeds.

In the first year that you plant your Hop-Garden, suppress not one Cion, but suffer them all to climb up to the poles, for if you should bury or cover all the Springs of any one of your three roots, which you did lately set, the root thereof perisheth, and perhaps out of some one root there will

will not proceed above one or two springs, which being buried, that root I say dyeth, and therefore the more poles are at this time requisite.

After the first year you must not suffer above two or three stalks at the most to grow up to one pole, but put down and bury all the rest.

Howbeit you may let them all grow till they be four or five foot high at the least, whereby you shall make the better choice of them which you mean to attain, whereby also the principall root will be the better, &c.

Some suffer their Hops to climb up to the tops of the poles, and then make the hills at one instant in such quantity as they mean to leave them, which is neither the best, nor the second way.

But if (for expedition) you be driven hereunto, begin sooner (that is to say) when the Hops be four or five foot long, and afterwards, if leisure shall serve, refresh them again with more earth.

But to make them well, and as they ought to be made, you must immediately after your poles are set, make a little bank or circle round about the outside of them, as a dimension how wide your hill shall be, and as a receptacle to retain and keep moisture, whereof there cannot lightly come too much, so it come from above.

If your Garden be great, by that time that you have made an end of these Circles or Banks, it will be time to proceed further towards the building up of your hills,

Now therefore return again to the place where you began, or else where you see the Hops highest, and with your tool pare off the uppermost earth from the Allies or spaces between the hills, and lay the same in your Hops, upon and within the circle that you made before, alwayes leaving the same highest of any part of the hill, and so passe through your Garden again and again, till you have raised your hills by little and little, to so great a quantity as is before declared, and look how high your hill is, so long are your new

roots, and the greater your new roots or springs be, the larger and better your Hops will be

Great and overgrown weeds should not be laid upon the hills, as to raise them to their due quantity, but when with diligence and expedition you passe through your Garden, continually paring away each green thing as soon as it appeareth, you shall do well with the same, and the uppermost mold of your Garden together, to maintain and encrease the substance of your hills, even till they be almost a yard high.

In the first year make not your hill too rathe, lest in the doing thereof you oppresse some of those springs which would otherwise have appeared out of the ground.

It shall not be amisse now and then to passe through your Garden, having in each hand a forked wand, directing aright such Hops as decline from the Poles, but some instead of the said forked wands, use to stand upon a stool, and do it with their hands.

Abuses in Hilling

SOME observe no time, and some no measure in making their hills, but (having heard say, that hills are necessary) they make hills once for all, and never after pluck down the same: but better it were to make no hill, than so to do, for after the first year it doth derogate, and not adde any comfort to the root, except the same be every year new made and dressed, &c.

Some use to break off the tops of the Hops when they are grown xi. or xii. foot high, because thereby they burnish and stock exceedingly, wherein, though I cannot commend their doings, yet do they much better than such as will have their Poles as long as their Hops.

But if your Pole be very long, and that the Hop have not attained to the top thereof before the middelt of *July*, you shall do well then to break, or cut off the top of the same Hop, for so shall the residue of the growing time serve to the main-

maintenance and increase of the Branches, which otherwise would expire without doing good in that matter, because that whole time would be then employed to the lengthening of the stalk which little prevaileth (I say) to the stocking or encrease of the Hop.

And here is to be noted, that many covetous men, thinking (in haſt) to enlarge their luere, do find (at leiſure) their commodity diminished, whiſt they make their hills too thick, their Poles too long, and ſuffer too many ſtalks to grow upon one Pole, wherein (I ſay) while they run away flattering themſelves with the imagination of double gains, they are overtaken with trebble dammage (that is to ſay) with the loſſe of their time, their labour, and their coſt.

Of the gathering of Hops.

NOte that commonly, at St. Margarets day, Hops blow, and at Lammas they bell, but what time your Hops begin to change colour, (that is to ſay) ſome what before Michaelmaſſe (for then you ſhall perceive the ſeed to change colour and wax brown) you muſt gather them, and for the ſpeedier diſpatch thereof, procure as much help as you can, taking the advantage of fair weather, and note that you were better to gather them too rathe than too late.

To do the ſame in the readieſt and beſt order, you muſt pull down your hills ſtanding together in the middeſt of your Garden, cut the roots of all thoſe hills, as you ſhall be taught in the Title of Cutting, &c. Then pare the Plat ſmall, level it, throw water on it, tread it, and ſweep it, ſo ſhall it be a fair Floore, whereon the Hops muſt lye to be picked.

Then beginning near unto the ſame, cut the ſtalks aſunder, cloſe by the tops of the hills, and if the Hops of one Pole be grown faſt unto another, cut them alſo aſunder with a ſharp Hook, and with a forked ſtaffe take them from the Poles.

You...

You may make the Fork and Hook (which cutteth asunder the Hops that grow together) one apt instrument to serve both these turns.

Then may you with your forked end, thrust up, or shove off all such stalks as remain upon each Hop-pole, and carry them to the Floore prepared for that purpose.

For the better doing hercof, it is very necessary that your poles be straight without scrags or knobs.

In any wise cut no more stalks then you shall carry away within one hour or two at the most, for if in the mean time the Sun shine hot, and it happen to rain, the Hops (remaining cut in that sort) will be much impaired thereby.

Let all such as help you stand round about the Floore, and suffer them not to pingle in picking one by one, but let them speedily strip them into Baskets prepared ready therefore.

It is not hurtfull greatly, though the smaller Leaves be mingled with the Hops, for in them is retained great vertue, insomuch as in Flanders they were sold Anno Domini 1566 for xvi. shillings viii. pence the Hundred, no one Hop being mingled with them.

Remember alwayes to clear your Floor twice or thrice every day, and sweep it clean at every such time, before you go to work again.

If the weather be unlike to be fair, you may carry these Hops into your house in Blankets or Baskets, &c. and there accomplish this work. Use no Linnen hereabouts, for the Hops will stain it so, as it can never be washed out.

If your poles be scraggy, so as you cannot strip the stalks from them in this order, you must pull them up with main force before the Hops be gathered, and this is painfull to your self, hurtfull to your Hops, and a delay to your work.

Then must you lay these poles upon a couple of forked stalks driven into the ground, being two or three yards distant one from another, as Spits upon Ranges, and so dispatch this businesse, if the weather be fair, if it be like to be foul, you must be fain to carry the Hops together with the pole into

into your Barn or house, that they may not take wet, and so be made uselesse.

In any wise let not the Hops be wet when you cut them from the hills, neither make any delay of gathering after the same time of cuttings, for in standing abroad they will shed their seed, wherein consisteth the chief vertue of the Hop, and hereof I cannot warn you too often, nor too earnestly.

Now by order I should declare unto you the manner of drying your Hops, but because I must therewithall describe the places meet for that purpose, with many circumstances appertaining thereunto, I will be bold, first to finish the work within your Hop-Garden, and then to lead you out of the same, into the place where you must dry your Hops, &c.

When your Hops are gathered, as soon as you have leisure, take up your Poles and pile them (that remain good) as I have shewed you in the Title of Poles.

Then carry out your broken Poles, and your Hop-straw to the fire.

Now may you depart out of your Garden, till the March following, except in the mean time you will bring in dung, or good earth to the maintenance thereof, towards the heightning of your hills, or else will plow it, &c.

What there is to be done in Winter herein.

TO be curious in laying dung upon the hills in Winter, as to comfort or warm the roots (as some do) it shall be needlesse, rather pluck down the hills, and let the roots lye bare all the Winter season, and this is usually done where Hops are best ordered, especially to restrain them from too rathe springing, which is the cause of blasse, and many other inconveniences.

If the ground be great that you keep, you shall be driven so to do, otherwise you shall not be able to overcome your work in due time.

In any case you must avoid new horse-dung as a very

R noysome

noysome and pernicious things for your Hops.

Stall dung is the best that can be wished for to serve this year, so it be thoroughly rotten.

Rather use no dung than unrotten dung about the dressing of your Hops, but omit not to bring into your Garden dung, that may there be preserved till it be good or needfull to be used.

When and where to lay dung.

ABout the end of April (if your ground be not rich enough) you must help every hill with a handfull or two of good earth, not when you cut your roots, for then it will rather do harm than good, but when the Hop is wound about the pole, then should you do it.

The order for reforming your ground.

IN March you may return to your Garden, and find it replenished with weeds, except by tillage, &c. you have prevented that matter already. It must, (as well therefore because the earth may be more fine, rich, and easie to be delivered into the hills) be digged over or plowed, except in the case mentioned.

The order of cutting Hop roots.

WHEN you pull down your hills, (which if you have not already done, you must now of necessity go about to do) you should (with your Garden tool) undermine them round about, till you come near to the principal roots, and then take the upper or younger roots in your hand, and shake off the earth, which earth being again removed away with your said tool, you shall discern where the new roots grow out of the old Sets.

In the doing hereof, be carefull that you spoil not the old Sets, as for the other roots which are to be cut away, you shall not need to spare them to the delay of your work, except such as you mean to set.

Take heed that you uncover not any more than the tops of the old Sets in the first year of cutting.

At

At what time soever you pull down your hills, cut not your roots before the end of *March*, or in the beginning of *April*, and then remember the wind.

In the first year (I mean) at the first time of cutting and dressing of your roots, you must (with a sharp knife) cut away all such roots or springs as grew the year before out of your Sets, within one inch of the same.

Every year after you must cut them as close as you can to the old roots, even as you see an *Ofiers* head cut.

There groweth out of the old Sets certain roots, right downwards, not joynted at all, which serve only for the nourishing and comfort of those Sets or principall roots, which are not to be cut off. There be other like unto them growing outward at the sides of the Sets. If these be not met withall, and cut asunder, they will encumber your whole Garden.

Because it may seem hard to discern the old Sets from the new springs, I thought good to advertise you how easie a thing it is to see the difference thereof; for first you shall be sure to find your Sets where you did set them, nothing increased in length, but somewhat in bignesse enlarged, and in few years all your Sets will be grown into one, so as by the quantity that thing shall plainly appear: and lastly the difference is seen by the colour, the old root being red, the other white, but if the hills be not yearly pulled down, and the roots yearly cut, then indeed the old Sets shall not be perceived from the other roots.

If your Sets be small, and placed in good ground, and the hill well maintained, the new Roots will be greater than the old.

If there grow in any hill a wild Hop, or whensoever the stalk waxeth red, or when the Hop in any wise decayeth, pull up every root in that hill, and set new in their places, at the usuall time of cutting and setting, or if you list, you may do it when you gather Hops with the roots which you cut away, when you make your picking place.

Of divers mens follies.

Many men seeing the springs so forward, as they will be by this time, are loth to lose the advantage hereof, and more unwilling to cut away so many goodly roots, but they that are timorous in this behalf, take pity upon their own profit, and are like unto them that refrain to lay dung upon their Corn land, because they will not beray it with so uncleanly a thing.

And some that take upon them great skill herein, think that for the first year they may be left unhilled and uncured, deceiving themselves with this conceit, that then the Sets prosper best within the ground, when they send least of their nature and state out of the ground. In this respect also they pull away or suppress all such Springs (as soon as they appear) which grow more, and besides them which they mean to assign to each Pole, as though when a mans finger were cut off, his hand would grow the greater. Indeed if there be no hill maintained, then the more Springs are suffered to grow out from the principall root, the more burden and punishment it will be to the same. But when the Springs are maintained with a hill, so much as remaineth within the same is converted into roots, which rather adde than take away any state from the principall root, in consideration hereof, the suppressing of the Springs may not be too rathe, for whatsoever opinion be hereof received, the many Springs never hurt the principall root, if the hills be well maintained, but it is the cumbring and shadowing of one to another, that worketh the annoyanc.

When you have cut your Hops, you must cover them as you were taught in the Title of Setting, and proceeding according to the order already set down.

Of disorder, and maintainers thereof.

Some there be that despise good order, being deceived with a shew of increase, which sometime appeareth in a disorderd

dered ground, to them I say, and say it truly, that the same is a bad and a small increase in respect of the other.

I say also, that although disorderly doings at the first may have a countenance of good success, yet in few years the same, and all hope thereof will certainly decay.

Some others there be that despise good order, satisfying themselves with this, that they have sufficiently to serve their own turn, without all these troubles, and surely it were pity that these should be troubled with any great abundance, that in contempt of their own profit, and of the Commonwealth, neglect such a benefit preferred unto them.

Of an Oste.

NOW have I shewed unto you the perfect Platform of a Hop-Garden, out of the which I led you for a time, and brought you in again when time required, and there would I leave you about your business, were it not to shew you by description such an Oste as they dry their Hops upon at Poppering, with the order thereof, &c. Which for the small charges and trouble in drying, for the speedy and well drying, and for the handsome and easie doing thereof, may be a profitable pattern, and a necessary instruction for as many as have, or shall have to do herein.

Of the severall rooms for an Oste.

First a little house must be built of length xviii. foot or xix. foot, of wideness eight, wherein must be comprehended three severall rooms.

The middle and principall room must be for your Oste, eight foot square. The fore part, which is to contain your dried Hops, will fall out to be five foot long, and eight foot wide a piece.

The chief matters that are to be by me described herein, are the Furnace below, wherein the fire is to be made, and the

the bed above, whereon the Hops must ly to be dryed: this I have chiefly to advise you of, that you build the whole house, and every part thereof as close as you can, and to place it near to your Garden, for the better expedition of your work, and somewhat distant from your house to avoid the danger of fire.

Of the Furnace or Keel.

THe Floore or nether part of your furnace must be about thirteen inches wide.

The depth or height thereof must be thirty inches.

The length of it must be about six or seven foot (that is to say) reaching from the fore part of the Ose almost to the further end thereof, so as there be left no more room but as a man may passe between the wall and the end of it.

It must be made wide below, and narrow above, fashioned in outward shape somewhat like to the roof of an house.

It must have three rows of holes at each side, the length of one Brick asunder, and the bignesse of half a Brick, placed checkerwise. Before you begin to make your holes, you should lay two rows of Brick, and when your three ranks of holes are placed upon them, you must lay again over them another row of Brick, and upon the same you must place your last and highest course, and they must stand longwise (as it were a tiptoe) the tops of the Bricks meeting together above (the nether part of them resting upon the uppermost course) and note that till then, each side must be built along directly upward.

You should leave almost a foot space between the mouth of your Furnace, and your rows of holes, especially of that row which is nethermost.

The further or hinder end of your Furnace, the which is opposite to the mouth thereof, must be built flat with an upright wall, and there must be holes also left as at the sides.

The Furnace in the top, (I mean from the upper course of holes) must be dawbed very well with mortar:

And so upon the top of your Furnace there will remain a gutter,

gutter, (whereupon Flemmings use to bake Apples, &c.) and the highest part thereof will reach within two foot and lesse of the Oste.

Finally, it must be placed upon the ground in the midst of the lower Floore of the Oste, which Floor must be made

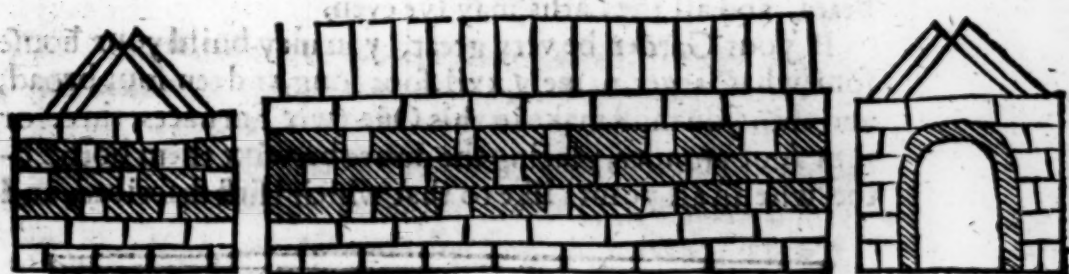
The binder most part or Fur-

ther end of the Furnace

One side of the Furnace.

The mouth and fore-

part of the Furnace.



very perfect, fine and levell, the reason whereof you shall perceive in the Title of drying.

Of the bed or upper floor of the Oste, whereon the Hops must be dried.

THe bed or upper floor, whereon your Hops shall lye to be dryed, must be placed almost five foot above the nether floor whereon the Furnace standeth.

The two walls at each side of the house, serve for the bed to rest upon two wayes.

Now must two other walls be built at each end of your Oste, whereon the other two parts of the bed must rest, and by this means shall you have a close square room beneath, betwixt the lower floor and the bed, so as the floor below shall be as wide as the bed above.

These two walls must also be made four foot above the bed (that is to say) about nine foot high.

At the one end below, besides the mouth of the Furnace, you must make a little doore into the room beneath the bed. At

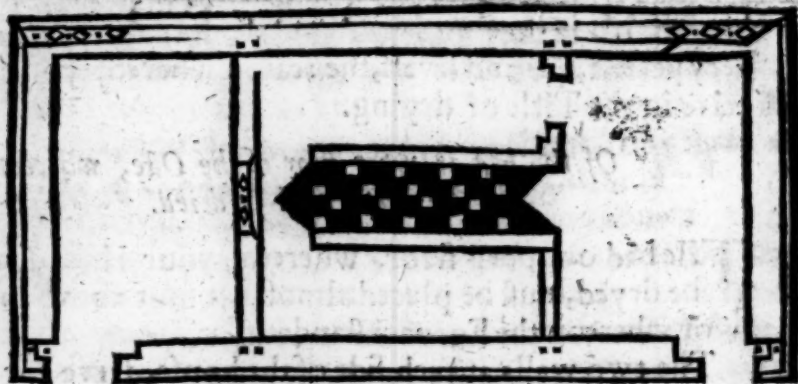
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the other end above the bed you must make a Window to shove off from the bed the dried Hops, down into the room below prepared for them.

The bed should be made as the bed of any other Ofe, saving that the Rails or Laths, which serve thereto, must be sawn very even one inch square, and laid one quarter of an inch asunder. But there may be no more beams to stay the Laths but one, and the same must be laid flat and not on edge, in the midst from one end of the room to the other, and the Laths must be let into the same beam, so as the upper side of the beam, and all the Laths may lye even.

If your Garden be very great, you may build your house somewhat larger, namely xxii. foot long, and ten foot broad, and then you must make in this Ofe two Furnaces, three or four foot asunder, placing the doore betwixt them both, otherwise in all points like to that which I first described, and

The window pointed unto may not stand below in the nether room, but above as is before declared.



the ground-work hereof is to set out here, that any Carpenter will easily frame the whole house by the same Figure.

And now once again wishing you to make every doore, Window and joynt of this house close, I will leave building, and proceed to the drying of Hops, saving that I may not omit to tell you, that you should either build all the walls of this Room with Brick, or else with Lime and Hair pargit them over: and at the least that wall wherein the

mouth of the Furnace, standeth, be made of Brick.

And although I have delayed you from time to time; and brought you from place to place, and tediously led you in and out, to and fro in the demonstration hereof, yet must I be bold to bring you round about again, even to the place where I left you picking, from whence you must speedily convey your pickt Hops to the place built and prepared for them, and with as much speed hasten the drying of them.

The orderly drying of Hops.

THe first businesse that is to be done herein, is to go up to the bed of the Ofe, and there to receive baskets filled with Hops, at the hands of one that standeth below.

Then beginning at the further end (lest you should tread on them) lay down Basketfull by Basketfull, till the floore or bed be all covered, alwayes stirring them even and leuell, with a Cudgell, so as they may lye about a foot and a half thick, and note that upon this Ofe, there is no Ofe-cloth to be used.

Now must you come down to make your fire in the Furnace, for the kindling whereof your old broken Poles are very good, howbeit for the continuance and maintenance of this fire, that wood is best which is not too dry, and somewhat great.

Your Hop-stalks or any other straw is not to be used herein.

You shall not need to lay the wood through to the further end of your Furnace, for the fire made in the forepart thereof, will bend that way, so as the heat will universally and indifferently ascend and proceed out of every hole.

You must keep herein a continuall and hot fire, Howbeit you must stir it as little as you can.

Neither may you stir the Hops that lye upon the Ofe, untill they be thoroughly dried.

When they are dry above, then they are ready to be removed away, and yet sometimes it happeneth, (that through
S the

the disorderly laying of them) they are not so soon dry in one place, as they are in another.

The way to help that matter, is to tak a little Pole (where-with you shall sensibly feel and perceive which be, and which be not dry, by the rattling of the Hops which you shall therewith touch) and with the same Pole to turn aside such Hops as be not dry, abating the thickeſſe to the moiſt place.

When your Hops are dry, rake up the fire in ſuch ſort, as there may be no delay in the renewing thereof.

Then with expedition move them out of the Window before mentioned into the room prepared to receive them, with a Rake fashioned like a Cole-rake, having inſtead of teeth a board, &c.

This being done, go down into the lower Floor, and ſweep together ſuch Hops and ſeeds, as are fallen thereinto, and lay them up among the dried Hops, and then without delay cover the bed again with green Hops, and kindle your fire.

Lay your dried Hops on a heap together till they be cold, and by this means ſuch as were not perfectly dried through ſome diſorder upon the Oſt, ſhall now be reformed.

If they have been well ordered, they will now be brown, and yet bright.

If they be black and dark, it is a note that they are diſordered.

The *Flemmings* pack them not up before they ſell them to the Merchant, but lay them in ſome corner of a Loft, where they tread them cloſe together.

Other wayes of drying not ſo good.

Some uſe to dry their Hops upon a common Oſt, but that way there can be no great ſpeed in your work, nor ſmall expence of your wood, beſides the danger of fire and ill ſucceſſe of your doings.

On this Oſt you muſt have an Oſt cloth, otherwiſe the Seed and Hops that fall down ſhall not onely periſh, but endanger the burning of your Oſt.

Upon

Upon this *Ofte* you may not lay your Hops above eight or nine inches thick, which neverthelesse shall not be so soon dry, as they which lye upon the other *Ofte* almost two foot thick, and therefore this way you shall make more toil in your work, more spoil in your Hops, and more expence in your wood.

Some use to dry their Hops in a Garret, or upon the floor of a Loft or Chamber, in the reproof whereof I must say, that as few men have room enough in their houses to contain any great quantity or multitude of Hops, so the dust that will arise shall empair them, the chinks, crevices, and open joynts of your Lofts, being not close byrthed, will devour the seeds of them. in the end the Leaves will endanger them with heating, when they are packt, as being not so soon dry as the Hops, which thereby will be utterly spoiled in colour, in scent and in verdure.

As for any low rooms or earthen floors, they are yet worse for this purpose than the other, for either they yield dust in drynesse, or moisture in wet weather.

And therefore if you have no *Ofte*, dry them in a Loft as open to the air as may be: sweep, wash and rub the boards, and let your Broom reach to the walls, and even to the roof of your Loft, for I can teach you no way to divide the dust from your Hops, but so to prevent the inconvenience hereof.

Stop the holes and chinks of your floor, lay them not above half a foot thick, and turn them once a day at the least, by the space of two or three weeks.

This being done, sweep them up into a corner of your Loft, and there let them lye as long more, for yet there remaineth perill in packing of them.

If the year prove very wet, your Hops ask the longer time of drying, and without an *Ofte* will never be well dried.

The very worst way of drying Hops.

Some lay their Hops in the Sun to dry, and this taketh away the state of the Hoppes, contrary to the

purpose of drying, which is very prejudiciall to the Brewer.

Of not Drying.

SOME gather them, and brew with them being green and undried, supposing that in drying the vertue and state of the Hop decayeth and fadeth away, wherein they are deceived: for the verdure is worse, the strength lesse, and the quantity must be more of green Hops, that are to be brewed in this sort.

In the first wort, which the Brewers call the Hop-wort (because the time of seething thereof is short) there goeth out of these Hops almost no vertue at all, and therefore experience hath taught them, that are driven to brew with these green Hops, to seeth them again in the wort, which they call Ney-beere, where after long seething they will leave the state which remaineth in them, and that is not much.

Of the packing of Hops.

IN the making of your Hop-sacks, use your own cunning or invention, for I have small skill therein, Howbeit I can tell you, that the Hop-sacks which are brought out of *Flanders*, may be good Samplers for you to work by, the stuffe is not dainty wherewith they are made, the Loom is not softly wherein they are woven, the cunning not curious whereby they are fashioned, but when you have them, and are ready to pack your Hops, do thus.

Thrust into the mouth of your Sack (which must be doubled and turned in strongly lest it break) four strong pinnes, a foot long a piece, placed in equall distance the one from the other, then lay two Bats, or big Poles crosse or thwart two beams or couplings of your house, which two Bats must ly no further asunder than the wideness of the Sacks mouth. Fasten upon each pin a Rope, and knit two of those Ropes upon each crosse Bat, so as the bottome of the Sack being empty, may hang within half a foot of the floore, then stand within the Sack, and receive the Hops, treading down very hard, and before the Sack be half full, it will rest upon the

the ground, whereby you shall be able to presse them the harder together.

But the handsomer way were to make a square hole (as wide as the Sacks mouth) in the floor of the loft, where your Hops lye, and to hang down your Sack at that hole, and with a Scoope or shovell to shove down your Hops therein, and to receive them as is aforesaid: when the Sack is almost full, undo the Ropes, and wind those pinnes about for the harder shutting of the Sack, and fasten them therein.

If you please, you may sow (over the mouth of this Sack) another piece of Sackcloth, whereof you must leave a little unsowed, untill you have thrust as many Hops as you can between the Sack and the same, but in beholding the Hop-sacks sent from Poppering, you shall better understand and learn the doings hereof.

For your own provision, you may preserve them in Dry-fats, Barrells, or such like vessels, for want of room to leave them in, or Sacks to pack them in.

There is according to the Proverb, *much falshood in packing*, I am unskillfull in that Art, If I were otherwise, I would be loth to teach such detorine.

But to avoid such deceit, and to make the more perfect and better choice, it is usuall and lawfull in most places, where Hops are sold; to cut the Sack that you mean to buy, in seven or eight places, and to search at each place, whether the Hops be of like goodnesse.

Such places as you shall feel with your hand to be softer than the rest, you should specially cut, where perhaps you shall find Hops of another kind, elder or worse than the rest.

The reformation of a Garden of wild-Hops.

TO reform a Garden where the Hops be wild, the work is tedious, and none other way remaineth, but to dig over the same with a Spade, so deep as you may search out and throw out every root, and piece of Root that

may be found in, or near therunto, and then to plant according to the order before declared.

The reformation of a disordered Garden.

TO repair a ruinous Garden, which through ignorance was disorderly set, and through sloth suffered to overrun and decay, where nevertheless, the Hops remain of a good kind (though somewhat empaired, as they must needs be by this mean) the very best way were to do as to the wild Hop.

The second way is to forget that it is disordered at all, imagining that all were well, and to set your Poles in such order and so far asunder, as is prescribed in that Title, alwayes directing them right with a line, so as a stranger beholding them, may suppose that your Garden is kept after the best manner, then lead unto each Pole two or three stalks, which you shall find nearest thereunto, and there erect a hill which you may ever after cut and dresse according to the rules before declared, and so by continuall digging, paring, and diligence, you may at last bring it to some reasonable perfection.

If your Garden be very much matted with roots, so as it be too tedious to digge, set your Poles as you are already taught, and bring into your Garden, and lay near to every such place, where you mean to make a hill, one Cart load of good earth, with the which after your Hops are tyed to your Poles, begin to make your hill, and proceed as in the Title of hills, alwayes cutting down such Hops or weeds as grow between the said hills.

If your plot be set orderly, and your hills made accordingly, and yet left undressed by the space of two or three years, it will be very hard (May) to discern the Sets from the other later roots: nevertheless if your ground be good, you may yet reform the inconvenience thereof, namely, by pulling down the hill, and cutting away all the roots contained therein, even with the face or upper part of the earth, searching also each side, and digging yet lower, and round about

bout the root which remaineth, and to take away from the same all such roots as appear out thereof.

Needlesse curiosities used by the unskilfull.

TO water your Garden, as to make the roots grow the better, it were more tedious then needfull, for the hilling thereof serveth for that purpose, and there is time of growing sufficient for them betwixt the middest of *April* and *August*, and yet it never hurteth, but rather doth good, if it be before the hill be made.

To pluck off the Leaves, to the end that the Hops may prosper the better, is also needlesse, and to no purpose, and rather hindereth than helpeth the growth of the Hops, for they are hereby deprived of that garment which Nature hath necessarily provided for them, and clothed them with.

To flaw the Poles, thereby to prolong their continuance, is more than needeth to be done in this behalf, for it is too tedious to your self, and hurtfull to your Hop, and little available to the purposes aforesaid.

To burn the nether part or great end of your Poles, as some do, to the end they should last or endure the longer, is also an unnecessary trouble, onely Willow-Poles you may so use, to keep them from growing.

So is it to weed the hills with the hand, whereas the same weeds shall be buried by the raising of the hill.

THUS have you a brief and short Description of the Platform of a Hop-Garden: what ground is fit for them, as also the Scituation thereof, with the Proportion of ground a man may employ about Hops, which may either
be

be according to his own expending in his own private Family, or else according to the charge which he intendeth to bestow about it, either of which will be well recompensed, if Gods blessing go along with the pains and industry of the Husbandman: for whose direction in the managing of his work, this small Treatise was compiled: for besides the Platform, fitnessse or unfitnessse of the Ground, &c. here in you may learn how to choose, and set your Roots: the distance of the Hills one from another; the number of Hop-poles, which you are to set about each hills: in conclusion your Hops being come to perfection, the manner of gathering, drying and packing them up that they may continue long, and keep sweet. No man ever wrote more fully concerning the ordering of Hops from the first setting them into the Ground, untill the drying, and laying them up for store, than this Authour hath done, none with more brevity.

The Husbandmans due observation of these Directions is required, and without question he cannot fall short of his expectation.

Here



Here follow certaine directions
for the Sowing, Planting and Transplanting of
T A B A C O .

Intend to write but sparingly of this subject (tho ugh not very many have formerly treated hereof:) I shall first therefore begin (passing by the severall names it is called by) as also the severall species or kinds thereof. With us in *England* generally it is called Tabaco, the shape and forme whereof very much resembleth the greater Comfry, insomuch that some would take it, or rather mistake it for great Comfry, they may rather deeme it to be yellow Henbane, they are not much unlike. It hath a thick round stalk nere about two foot high, whereon do grow fat green leaves, but not so large as that which grows in the Indies, somewhat round pointed, not being notched or cut in the edges, and bigger downward toward the root than it is above: while it is young it is leaved, and putteth forth some branches distant from one another halfe a foot, whereby it is furnished with leaves, and putting forth severall joynts, at length it grows to a great height. The stalk branching forth beareth at the tops sundry flowers coming out of a swad or husk, having the fashion of a bell, scarce standing above the brinks of the husk: no sooner are the flowers gone, but the seeds appeare, which are very small, not much unlike the seeds of yellow henbane; when they are not yet ripe they are of a green colour, but when they be ripe, they are of a black colour. The roots are not very great nor woody, but perishing.

thing, but that, notwithstanding the hard frosts in winter, it sprouts up againe in the Spring.

The seeds were first brought from some remote part of the world into this Commonwealth not many yeares since, and were it not for its physicall qualities that it hath, more than the great benefit which will redound to this Nation by planting it (being not of verie great esteeme) I had spared this labour: and my chiefe reason for this is, because, I am of opinion, that hearbs either transplanted, or brought in seed into this Land, (if it shall agree with the soyl) will agree better with the constitution of our bodies, than that which is brought from any forrein part from beyond the Seas.

*The nature of the Soyle that is required for the
Sowing, Planting or Transplanting Tabaco.*

THe most fruitfull and fertil soyle naturally, or by art so made, is most requisite for this purpose: if the Soyle be naturally fat and strong, regard likewise must be had of the situation of the ground, whether in field or garden, that the place be not over-shadowed with Trees, whereby the Sunne may be hindered from yielding unto it its heat: neither must your Tabaco be planted or sowne in wide & large fields which lies open to all winds and weathers, especially the North winds. And as unkindly blasts are a great enemy to the thriving of it on the one side, so on the other side, the want of the comfort of the heat of the Sunne will so chill it, that it will never come to perfection.

But if by Art: your ground must be well dunged and manured, which ought to be mixed and incorporated with the earth, that there may not be the least appearance of Dung. Moreover the Dung you so make use of must lie a long time rotting, if it be gathered out of the stable: Your best soyle therefore for present occasion is such as is taken up in the streets, or else Ashes sifted.

Your

Your Hops and Tabaco will require the selfe manuring, and I am of opinion that such lands as they sow their Hempe in, must needs be fit for this purpose, because it is fat and mellow.

The best way of sowing your Seeds

SOME are of opinion that the Seeds should be carelesly cast abroad without either sowing or raking, the ground being first prepared with the Plough or the Spade.

Others againe will tell you, that you must make a small hole in the ground with your finger, about the depth of your fingers length, wherein you may put ten or twelve seeds, and so cover the hole againe: and this reason they give for their so doing: for say they, the seeds being very small, are either subject to be blowne away by every small winde: or else parched by the extreame scorching heat of the Sunne. I prefer this way before the former.

Others againe would have us sow the seeds as Lettices and other small seeds are committed to the ground, by taking some of the finest moulde, and putting it into a platter of wood, or some such like vessell, mixing the earth very well with the seed, and so cast to it on the ground very thinne and sparingly. This may be their reason, because the seed being mixed so well with the earth, will stick close to some small crummes of earth, that the wind cannot disperse it, and besides it occasioneth the speedier rooting thereof, and somewhat shelters it, that the heat of the Sunne will not much annoy it: but if you shall put a small quantity of Ashes very finely sifted into the vessell among the earth and seeds, it would be much better.

The time of Sowing or Planting.

IN the Moneths of *March*, *Aprill*, or *May*, the Seed may be committed to the earth, but the most fit and convenientest season is conceived to be in the middest of *Aprill*, or before (if the Spring be very forward) for *March* winds are no good friend unto them: wherefore a good way were to cover your beds, already sowed, with old Matts, and when the Sunne doth appeare to uncover them the next morning, but because you should spare some daily labour and toyle you might be put to, once for all fence it with reeds against the North-wind, for the space of a moneth or two.

Of ordering your ground after Sowing your Seed,

IN the first place keep your ground cleare from weeds, aswell before the sowing of the seed, as afterwards, because otherwise the weeds will choake the plant, and steal away the strength of the ground, which should nourish it. Also it would not be amisse to remove all stones from about them, because the stones will impede their growth, and may occasion it to grow awry, contrary to the nature of it. Indeed, if we will believe authors, it is a very sullen Plant, and apt to take distast, which may be the reason that Physicians terme it a hearbe of *Mars*, and I may adde another observation of my owne, that from hence it is that all the Souldiers so generally approve of it, that scarce one of a hundred can be well long without it. I write not this to give any encouragement to our English Planters of *Tabaco*, because when they have done all they can, they are recompenced with a sorry crop in conclusion, it being generally stiled by the name of *Mundungos*: but rather to animate Gentlemen, who happily may have spare ground enough, to sow and plant it in their Gardens,
not

not that they should think thereby to make any great gain by it, but to have it in readinesse when occasion shall require, either for his own or neighbours use. The rare vertues of Tabaco, the Physicians, Apothecaries and Herbalists, can best acquaint you with.

If the Season of the year prove hot and dry, after the sowing of your seed, you must have a speciall care to the watering of your ground, and this must be done neither too early, nor too late in the morning, especially in the Moneths of *April* or *May*, nor too late in the Evening, and after the leaf hath appeared above ground, about a foot high, you may then transplant them.

The manner of transplanting Tabaco.

YOU shall (for you must be very chary of roots that you perish them not) take a knife, or some other tool, and cut round about the roots all the earth so deep as you may take up the roots entire, which when you have done, you must be very chary in separating of them, (if there be more than one root) wherefore your best way is to take the earth, that you so digged up, with the roots, and put it into a Tub of water, and in short time the water will wash away the earth from the small and tender Imps, and by this means you may sever the one Imp from the other without any danger of breaking them; the one being parted from the other, set them in the place (which before either was, or must now be prepared for them) about four foot distance, the one from the other, and as near as you can so order it, that it may have the benefit of the South Sun, and that they may be defended from the North-winds: withall let them not want of their due watering in Summer, for as drink to a thirsty soul; so water cherisheth and refresheth the drooping and almost dropping leaves of each Plant: but chiefly this Plant, which above all other will require it, for of it self, it is very hot by nature.

The

The time of gathering it for your use.

THe store that you intend to keep for your use by you, must be gathered before that it either flowreth or seedeth, and therefore I conceive your best time would be about the middle of *June*, for then it is in its full strength, and having gather'd it, you may not leave it in the Sun to dry, but as *Colesfoot* is ordered in drying, so may you order your *Tabaco*, and be sure that each leaf be through dry before you put them together, for fear lest they should grow musty, and by that means made uselesse, and to prevent this, your wisest course will be to let them hang severally by themselves, as at first, onely you may, if you please, remove them from the drying place in *Winter* into some warmer place, because though in the *Summer*, it lying open to the aire, it was beneficiall to you, it may in the *Winter* prove as prejudiciall.

The time of flowering and seeding.

IT beareth Flowers from the latter end of *June* till the latter end of *August*, and they are of a greenish, yellow colour, which the stalk branching forth, doth bear at the top thereof: these flowers are set in green husks, but appear not much above the brims of of the husks. The seed is likewise contained in the great heads, after the flowers are decayed.

Of the Roots and Leaves.

THe Roots and Leaves do yield a Gluish and Rosinsh kind of juice, somewhat yellow, and smelling somewhat like *Rosin*, but unpleasant, and of a sharp, eager and biting taste; which shews that it is by nature hot, more than in the second degree, and dry in the first, whereupon we may inferre, that it is no kind of yellow *Henbane*.

*To preserve the Plant or Roote from dying
in the Winter.*

THE root (as I said before) may spring up againe of its owne accord, but seldome after a sharp winter : for when long and tedious frosts have cruisted the earth , out of all question the roote if not perished, will be much endangered, and at the Spring time not be able, thorough weaknesse, to prosper. Therefore I shall direct you how to preserve them, and keep the leaves green all the winter.

Some would have you fence about your ground with reeds, or such things, as will breake the force of the cold winds : and to preserve them from frosts, they advise you to cover the Plants with Matts: but as such a weight continually pressing the Plant downe will rotte it, so will it do but little good to the Plants in extremity of Winter.

Others would have you make a slight house of Deale about your Plants to preserve them, which you may remove afterwards. Such as have enough may be at this unnecessary charge.

But the best way, as I conceive, to preserve them is by removing them in the winter, the manner thus: Take up the root with the earth about them, put all into some pot or any other thing fit for the purpose, and set them in a warme place about your house, and let it abide there all the winter, but if the Sun chance to shine very hot, afford your Plant the benefit thereof for one hour or two, and so returne it to its former place, this is the most certaine way to preserve roots and Plants all the Winter, and in the Spring set them into the ground with the same earth about them.

FIN IS.